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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,121	12/04/2000	Eiichi Masuhara	199553US0	3805

22850 7590 07/03/2002

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EXAMINER

JAGOE, DONNA A

ART UNIT PAPER NUMBER

1614

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application N .</b>	<b>Applicant(s)</b>	
	09/728,121	MASUHARA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Donna A. Jagoe	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                               | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4 and 5</u> . | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-12 and 21-22<sup>3</sup> in Paper No. 7 is acknowledged. The traversal is on the ground(s) that groups II and III are directly dependent from the claims of Group I, and as such, these groups are not separable. This is not found persuasive because the process as claimed in Group II, can be used to make a materially different product such as coating glass or ceramics as in U.S. Patent 6,103,363, column 6, lines 65-67. Regarding the method of group III, drawn to curing halitosis, this can be practiced with a materially different product such as with ordinary mouthwashes or regular oral hygiene such as tooth brushing as in U.S. Patent No. 5,738,840 (see abstract).

The requirement is still deemed proper and is therefore made FINAL.

Claims 13-20 and 24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claims 1-12 and 21-23 are presented for examination.***

***Specification***

The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. See page 29, lines 11-13 of the disclosure. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Patel GB 2 257 439 A.

The claims are drawn to compositions comprising a photocatalytic titanium oxide precursor and a silicon compound of formula I, a hydrolyzate of said silicon compound I,

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a silicone resin, silicone resin precursor and silica in a liquid medium, further comprising a thickener, and at least one particle selected from the group consisting of silver, copper, zinc, metal salt and mixtures thereof.

Patel teaches a titanium composition such as titanium oxide (see abstract) or titanium alkoxide (see claim 19) along with a hydrolysable silicic ester such as tetraalkoxysilicon or silicon tetrahalide, and a solvent such as alcohol with a filler (thickener) such as kaolinite (see abstract). The composition may also contain a metal alkoxide (see abstract). The ratio of titanium to silicon 5.1/1 in weight percent (see example 7, page 19 and page 7, lines 14-24), which is encompassed by the ratio of the instant application. The composition is intended for use as a coating for teeth for sealing fissures, and cosmetic procedures such as coating stained teeth, etc. (page 6, line 20 to page 7, line 13). The film is applied to teeth and cured on the surface (page 4, lines 5-29). Although Patel does not teach that the titanium is photocatalytic, it is known that semiconductive materials based on metal oxides, which are capable, under the effect of radiation of appropriate wavelength, of initiating radical reactions, which cause the oxidation of organic products. They are generally referred to as "photocatalytic" or alternatively "photoreactive". Since titanium oxides are included in these metals, titanium oxide's photoreactivity is considered to be inherent.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna A. Jagoe whose telephone number is (703) 306-5826. The examiner can normally be reached on 6:30 A.M. - 3 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marianne Seidel can be reached on (703) 308-4725. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3230 for regular communications and (703) 308-7921 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0193.

dj  
June 28, 2002

FREDERICK KRASS  
PRIMARY EXAMINER  
GROUP 1600

